III. Claims 1, 3, 4, 6, 12, 26, 28, 29, 34, 52 and 54, drawn to methods comprising introducing into a plant cell a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:6, classified in class 435, subclass 410;

IV. Claims 2, 5, 7-25, 27-31 and 36-57, drawn to a methods comprising introducing into a plant cell a nucleic acid molecule of SEQ ID NO: 1 encoding a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:2, and to transgenic plants comprising said nucleotide sequence, classified in class 800, subclass 290;

V. Claims 2, 5, 7-25, 27-31 and 36-57, drawn to a methods comprising introducing into a plant cell a nucleic acid molecule of SEQ ID NO:3 encoding a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:4, and to transgenic plants comprising said nucleotide sequence, classified in class 800, subclass 287;

VI. Claims 2, 5, 7-25, 27-31 and 36-57, drawn to a methods comprising introducing into a plant cell a nucleic acid molecule of SEQ ID NO:5 encoding a cyclin-dependent kinase inhibitor (CKI) of SEQ ID NO:6, and to transgenic plants comprising said nucleotide sequence, classified in class 435, subclass 468;

VII. Claims 32 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:2 in a plant by cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor of SEQ ID NO: 1, classified in class 800, subclass 285;

VIII. Claims 32 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:4 in a plant by cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor of SEQ ID NO:3, classified in class 800, subclass 285;

IX. Claims 32 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:6 in a plant by cosuppression mediated by a nucleic acid molecule encoding a cyclin-dependent kinase inhibitor of SEQ ID NO:5, classified in class 800, subclass 285;

X. Claims 33 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:2 in a plant by antisense expression of a nucleic acid molecule of SEQ ID NO:1, classified in class 800, subclass 286;

XI. Claims 33 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:4 in a plant by antisense expression of a nucleic acid molecule of SEQ ID NO:3, classified in class 800, subclass 286;

XII. Claims 33 and 52-54, drawn to a method of down regulating expression of CKI of SEQ ID NO:6 in a plant by antisense expression of a nucleic acid molecule of SEQ ID NO:5, classified in class 800, subclass 286;

XIII. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by administering anti-CKI antibodies, classified in class 435, subclass 410;

XIV. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:4 in a plant by administering anti-CKI antibodies, classified in class 435, subclass 410;

XV. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by administering anti-CKI antibodies, classified in class 435, subclass 410;

XVI. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by expressing anti-CKI antibodies, classified in class 800, subclass 288;

XVII. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:4 in a plant by expressing anti-CKI antibodies, classified in class 800, subclass 288;

XVIII. Claims 35 and 52 and 54, drawn to a method of modulating the level or activity of CKI of SEQ ID NO:2 in a plant by expressing anti-CKI antibodies, classified in class 800, subclass 288;

XIX. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:34, classified in class 536, subclass 24.3;

XX. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:35, classified in class 536, subclass 24.3;

XXI. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:36, classified in class 536, subclass 24.3;

XXII. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:37, classified in class 536, subclass 24.3;

XXIII. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:38, classified in class 526, subclass 24.3;

XXIV. Claim 58, drawn to an isolated nucleic acid sequence encoding the consensus sequence of SEQ ID NO:39, classified in class 536, subclass 24.3;

XXV. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:34, classified in class 530, subclass 300;

XXVI. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:35, classified in class 530, subclass 300;

XXVII. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:36, classified in class 530, subclass 300;

XXVIII. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:37, classified in class 530, subclass 300;

XXIX. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:38, classified in class 530, subclass 300; and

XXX. Claim 59, drawn to a peptide having the consensus sequence of SEQ ID NO:39, classified in class 530, subclass 300.

In support of the present restriction requirement, the Examiner alleges that the products of Groups IV-VI and XIX-XXX are distinct products and the methods of Groups I-XVIII are distinct methods.

As indicated, and in order to be fully responsive to the Examiner's requirement for restriction, Applicants provisionally elect to prosecute the subject mater of Group IV, Claims 2, 5, 7-25, 27-31 and 36-57, and reserve the right to file one or more divisional applications directed to the non-elected subject matter in this application.

Pursuant to 37 C.F. R. § 1.111 and § 1.143, Applicants hereby traverse the Examiner's requirement for restriction for the following reasons.

An Examiner's authority to require restriction is defined and limited by statute:

> If two or more independent and distinct inventions are claimed in one application, the Commissioner may require the application to be restricted to one of the inventions. 35 U.S.C. 121, first sentence (emphasis added).

The implementing regulations of the Patent and Trademark Office include the mandate that restriction is appropriate only in cases presenting inventions which are both independent *and* distinct, 37 C.F.R. § § 1.141-142. Without independence and distinctness, a restriction requirement is unauthorized.

In the present application, the claims which the Examiner has grouped separately are not "independent and distinct" so as to justify the restriction requirement. All of the claims involve the manipulation of a cyclin-dependent kinase inhibitor (CKI). Thus, some claims are directed to introduction into a plant of a CKI (claims of Groups I, II, and III), while other claims are directed to introduction into a plant of the corresponding CKI coding sequences (claims of Groups IV, V, VI,). In addition, although the Examiner has separately grouped the claims of Groups VII-XII, all of these claims, directed to methods of down regulating expression of a CKI either through cosuppression or antisense expression, also involve the introduction into a plant of CKI encoding sequences. Still other claims involve administering to a plant an anti-CKI antibody (claims of Groups XIII-XVIII). Finally, the claims of Groups XIX–XXIV are directed to nucleic acid sequences encoding a CKI consensus sequence, while the claims of Groups XXV-XXX are directed to the corresponding CKI peptide consensus sequences. These same consensus sequences are recited in method claim 54 and transgenic plant claim 55. Thus, all of these claims are *interrelated and interdependen*t, not "independent an distinct."

The interdependence of claims directed to nucleic acid and amino acid consensus sequences, and methods involving introduction into a plant of nucleic acid and amino acid

sequences comprising same, is confirmed – indeed, it is mandated – by virtue of the fact that the description requirements of 35 U.S.C. § 112 compel disclosure of all aspects of the invention in the one application which Applicants have filed. An application claiming a nucleic acid and amino acid consensus sequence, is required to disclose *inter alia*, uses of such sequences, such as in introducing sequences comprising such consensus sequences into plants in order to manipulate CKI levels, or in the production and administration of antibodies directed against CKI. Likewise, an application claiming methods of modulating CKI through cosuppression or antisense is required to disclose nucleic acid and amino acid sequences which may be used in the method. Indeed, if any of these aspects of a complete disclosure were omitted – perhaps by an applicant relying on what the Patent and Trademark Office considers "independent and distinct" – the application could be considered defective under § 112, first paragraph.

Consequently, it is clear that aspects of a given invention, such as a product, its use, and the process of producing that product, are necessarily interdependent, not independent, from each other.

The courts have recognized that it is in the public interest to permit applicants to claim several aspects of their invention together in one application, as Applicants have done herein. The CCPA has observed:

> We believe the constitutional purpose of the patent system is promoted by encouraging applicants to claim, and therefore to describe in the manner required by 35 U.S.C. § 112 all aspects as to what they regard as their invention, regardless of the number of statutory classes involved.

In re Kuehl, 456 F.2d 658, 666, 117 U.S.P.Q. 250, 256 (CCPA 1973).

This interest is consistent with the practical reality that a sufficiently detailed disclosure supporting claims to one aspect of an invention customarily is sufficient to support claims in the same application to other aspects of the invention.

Applicants respectfully suggest that in view of the continued increase of official fees and the potential limitation of an applicant's financial resources, a practice which arbitrarily imposes restriction requirements may become prohibitive and thereby contravene the constitutional purpose to promote and encourage the progress of science and the useful arts. Moreover, under the regulatory changes as a consequence of the General Agreement on

Trade and Tariffs (GATT), Applicants are required to conduct simultaneous prosecution, as here, requiring excessive filing costs or a compromise of the term of their patent assets.

It is vital to all applicants that restriction requirements issue only with the proper statutory authorization, because patents issuing on divisional applications which are filed to prosecute claims that the Examiner held to be independent and distinct can be vulnerable to legal challenges alleging double patenting. The third sentence of 35 U.S.C. § 121, which states that a patent issuing on a parent application "shall not be used as a reference" against a divisional application or a patent issued thereon, does not provide comfort to applicants against such allegations. The Court of Appeals for the Federal Circuit has declined to hold that § 121 protects a patentee from an allegation of same-invention double patenting, *Studiengesellschaft Kohle mbH v. Northern Petrochemical Co.*, 784 F.2d 351, 355, 228, U.S.P.Q. 837, 840 (Fed. Cir. 1986). In *Gerber Garment Technology Inc. v. Lectra Systems Inc.*, 916 F.2d 683, 16 U.S.P.Q. 2d 436 (Fed. Cir. 1990), the same court held that § 121 does not insulate a patentee from an allegation of "obviousness-type" double patenting, and in fact affirmed the invalidation on double patenting grounds of a patent that had issued from a divisional application filed following a restriction requirement. Furthermore, it is far from clear that the step of filing a terminal disclaimer is available to resolve a double patenting issue that arises after the issuance of a patent on the divisional application.

All these considerations indicate that the imposition of a restriction requirement with inadequate authority can lead to situations in which an applicant's legitimate patent rights are exposed to uncertainty and even extinguished. Accordingly, to protect a patentee's rights and to serve the public's interest in the legitimacy of issued patents, Applicants respectfully urge the Examiner not to require restriction in cases such as the present application wherein various aspects of a unitary invention are claimed.

The particular reason given by the Examiner to justify restriction among Groups I and XXX is that the products and methods are distinct. The Examiner has also stated that since the "inventions" are distinct for these reasons, they have acquired a separate status in the art due to their divergent subject matter.

Reliance on the supposed classification of the groups of claims does not establish independence and distinctness. The classification system has no statutory recognition as

evidence of whether inventions are independent and distinct. The classification system is instead an aid in finding and searching for patents.

The classification system is also an unreliable basis for requiring restriction between claims to the various aspects of applicants' unitary invention, because the system exhibits considerable overlap in technical definitions. In particular, the definitions of classes and subclasses in the classification system do not prevent the Examiner from basing patentability decisions, as to claims he or she assigned to one group, on patent references found in the classes or subclass(es) with which he or she associated another group of claims.

Furthermore, the classification system is a poor basis for requiring restriction between related aspects of an invention because classifications and definitions change over time. Thus, a classification that might have seemed to support restriction at a given time could change, thereby casting a shadow over the propriety of the restriction requirement later on during the term of the patents issuing from parent and divisional applications. Indeed, classifications seem largely to change in response to considerations of administrative convenience, and often in response to nothing more than growth in the number of patents in a given class or subclass. These considerations have nothing to do with whether the subject matter of patents assigned to different classifications is "independent and distinct" as those terms are used in 35 U.S.C. § 121, which fact proves that basing restriction requirements on the classification system is improper.

Hence, it is again respectfully urged that the Examiner reconsider and withdraw the requirement for restriction and provide an action on the merits with respect to all the claims.

Alternatively, Applicants hereby respectfully request the Examiner to at least rejoin some of the claims. For example, the claims might be rejoined as follows:

Groups I-III directed to methods involving introducing a CKI into a plant;

Groups IV-VI, directed to methods involving introducing a nucleic acid molecule encoding a CKI into a plant;

Groups VII-IX, directed to methods of downregulating expression of a CKI by cosuppression;

Groups X-XII, directed to methods of downregulating expression of a CKI by antisense;

Groups XIII-XVIII, directed to methods of modulating level or activity of a CKI by expression of anti-CKI antibodies;

Groups XIX-XXIV, directed to isolated nucleic molecules comprising a consensus sequence; and

Groups XXV-XXX, directed to peptides comprising a consensus sequence.

Respectfully submitted,

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12/17/01 Maria Matos
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